

AMENDMENTS TO THE CLAIMS

1. (Canceled)

129. (Currently amended) The method of claim 148, wherein the macromer is a water soluble, ethylenically unsaturated, polymer susceptible to polymerization into a water insoluble polymer through interaction of at least two carbon-carbon double bonds.

130. (Currently Amended) The method of claim 129, wherein the macromer is selected from the group consisting of ethylenically unsaturated derivatives of poly(ethylene oxide) (PEO), poly(~~ethylene~~ethylene glycol) (PEG), poly(vinyl alcohol) (PVA), poly(vinylpyrrolidone) (PVP), poly(ethyloxazoline) (PEOX), poly(amino acids), polysaccharides, and proteins.

131. (Previously presented) The method of claim 130, wherein the macromer is PEG tetraacrylate.

132. (Currently amended) The method of claim 130, wherein the polysaccharides~~are~~ is selected from the group consisting of alginate, hyaluronic acid, chondroitin sulfate, dextran, dextran sulfate, heparin, heparin sulfate, heparan sulfate, chitosan, gellan gum, xanthan gum, guar gum, water soluble cellulose derivatives and carrageenan.

133. (Currently amended) The method of claim 130, wherein the proteins~~are~~ is selected from the group consisting of gelatin, collagen, and albumin.

134. (Currently amended) The method of claim 148, wherein the photoinitiator is any dye that absorbs light having a frequency between 320 nm and 900 nm, can form free radicals, is at least partially water soluble, and is non-toxic to the at least one ~~islet~~ cell at the concentration used for polymerization.

135. (Currently amended) The method of claim 148, wherein the macromer solution further comprises a primary, secondary, tertiary, or quaternary amine cocatalyst and the photoinitiator is selected from the group of ethyl eosin, eosin Y, fluorescein, 2, 2-dimethoxy, 2-phenylacetophenone, 2-methyl, 2-phenylacetophenone, camphorquinone, rose bengal, methylene blue, erythrosin, phloximine, thionine, riboflavin, and methyl green.

136. (Canceled)

137. (Currently amended) The method of claim 148, wherein the microcapsule is comprised of material selected from the group consisting of hydrogel, alginate, chitosan, agarose, and gelatin.

138. (Currently amended) The method of claim 148, wherein the macromer solution further comprises an accelerator to increase the rate of polymerization.

139-147. (Canceled)

148. (New) A method of encapsulation comprising the steps of:

- a) creating a microcapsule within which is encapsulated at least one cell,
- b) coating the microcapsule with a photoinitiator,
- c) placing the microcapsule in an aqueous macromer solution comprised of macromer,
- d) exposing the aqueous macromer solution containing the microcapsule to light radiation,
- e) polymerizing the aqueous macromer solution, and
- f) forming a macrocapsule containing at least one microcapsule with at least one cell.

149. (New) The method of claim 148, further comprising a step of:

coating the microcapsule with poly(L-lysine),
between step a) and step b).

150. (New) The method of claim 148, wherein the cell is an eukaryote cell.

151. (New) The method of claim 150, wherein the eukaryote cell is a mammalian cell.

152. (New) A method of encapsulation comprising the steps of:

- a) creating a microcapsule within which is encapsulated at least one cell,
- b) placing the microcapsule in an aqueous macromer solution comprised of a macromer and a photoinitiator,
- c) forming a droplet of the aqueous macromer solution containing at least one of the microcapsules,
- d) exposing the droplet to light radiation,
- e) polymerizing the aqueous macromer solution, and
- f) forming a macrocapsule containing at least one microcapsule with at least one cell.

153. (New) The method of claim 152, wherein the macromer is a water soluble, ethylenically unsaturated, polymer susceptible to polymerization into a water insoluble polymer through interaction of at least two carbon-carbon double bonds.

154. (New) The method of claim 153, wherein the macromer is selected from the group consisting of ethylenically unsaturated derivatives of poly(ethylene oxide) (PEO), poly(ethylene glycol) (PEG), poly(vinyl alcohol) (PVA), poly(vinylpyrrolidone) (PVP), poly(ethyloxazoline) (PEOX), poly(amino acids), polysaccharides, and proteins.

155. (New) The method of claim 154, wherein the macromer is PEG tetraacrylate.

156. (New) The method of claim 154, wherein the polysaccharide is selected from the group consisting of alginate, hyaluronic acid, chondroitin sulfate, dextran, dextran sulfate, heparin, heparin sulfate, heparan sulfate, chitosan, gellan gum, xanthan gum, guar gum, water soluble cellulose derivatives and carrageenan.

157. (New) The method of claim 154, wherein the protein is selected from the group consisting of gelatin, collagen, and albumin.

158. (New) The method of claim 152, wherein the photoinitiator is any dye that absorbs light having a frequency between 320 nm and 900 nm, can form free radicals, is at least partially water soluble, and is non-toxic to the at least one cell at the concentration used for polymerization.

159. (New) The method of claim 152, wherein the macromer solution further comprises a primary, secondary, tertiary, or quaternary amine cocatalyst and the photoinitiator is selected from the group of ethyl eosin, eosin Y, fluorescein, 2, 2-dimethoxy, 2-phenylacetophenone, 2-methyl, 2-phenylacetophenone, camphorquinone, rose bengal, methylene blue, erythrosin, phloxine, thionine, riboflavin, and methyl green.

160. (New) The method of claim 152, wherein the geometric shapes are formed by coextrusion of the aqueous macromer solution mixed with the microcapsules with a non-toxic, non-immunogenic, non-miscible substance capable of maintaining droplet formation.

161. (New) The method of claim 152, wherein the microcapsule is comprised of material selected from the group consisting of hydrogel, alginate, chitosan, agarose, and gelatin.

162. (New) The method of claim 152, wherein the macromer solution further comprises an accelerator to increase the rate of polymerization.

163. (New) The method of claim 152, further comprising a step of:

coating the microcapsule with poly(L-lysine),
between step a) and step b).

164. (New) The method of claim 152, wherein the cell is an eukaryote cell.

165. (New) The method of claim 164, wherein the eukaryote cell is a mammalian cell.